FUEL ECONOMY

TEST OBJECTIVE

Determine the fuel economy potential of all vehicles being evaluated. The data used for scoring are both valid and reliable in a comparison sense, while not necessarily being an accurate predictor of actual fuel economy in police patrol service.
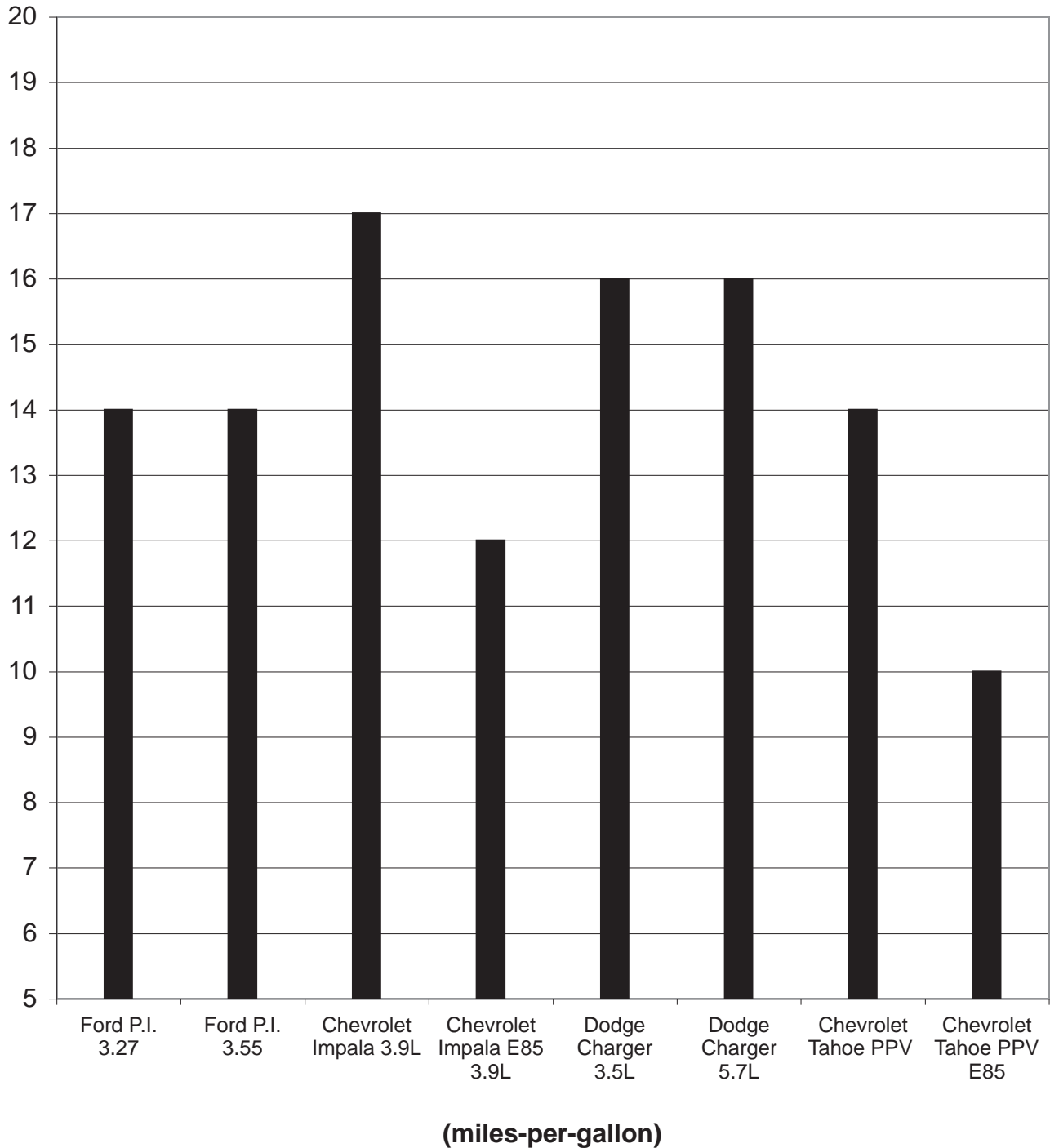
TEST METHODOLOGY

The vehicles will be scored based on estimates for city fuel economy to the nearest $1/10^{th}$ mile per gallon (mpg) developed from data supplied by the vehicle manufacturer and certified by the Environmental Protection Agency.

Vehicles Make/Model/Engine		E.P.A. Miles Per Gallon					
		City		Highway		Combined	
		Label	Unadjusted	Label	Unadjusted	Label	Unadjusted
Ford Police Interceptor 3.27	4.6L SPFI	14	17.9	21	29.7	17	21.7
Ford Police Interceptor 3.55	4.6L SPFI	14	17.9	21	29.7	17	21.7
Chevrolet Impala	3.9L SPFI	17	21.2	24	33.8	20	25.5
Chevrolet Impala E85	3.9L SPFI	12	15.5	18	24.7	15	18.6
Dodge Charger	3.5L SPFI	16	20.9	25	34.1	19	25.3
Dodge Charger	5.7L SPFI	16	19.3	25	34.6	19	24.1
Chevrolet Tahoe PPV	5.3L SPFI	14	17.3	19	26.3	16	20.4
Chevrolet Tahoe E85 PPV	5.3L SPFI	10	12.7	13	18.6	11	14.8

2009 FUEL ECONOMY COMPARISON

"CITY" EPA ESTIMATES

Chart showing "City" EPA fuel economy estimates in miles-per-gallon:

Vehicle	City MPG
Ford P.I. 3.27	14
Ford P.I. 3.55	14
Chevrolet Impala 3.9L	17
Chevrolet Impala E85 3.9L	12
Dodge Charger 3.5L	16
Dodge Charger 5.7L	16
Chevrolet Tahoe PPV	14
Chevrolet Tahoe PPV E85	10

(miles-per-gallon)

MICHIGAN STATE POLICE
SCORING AND BID ADJUSTMENT METHODOLOGY*

STEP I: RAW SCORES

Raw scores are developed, through testing, for each vehicle in each of six evaluation categories. The raw scores are expressed in terms of seconds, feet per second^2, miles-per-hour, points, and miles-per-gallon.

VEHICLE DYNAM. (seconds)	BRAKING RATE (ft/sec^2)	ACCEL. (seconds)	TOP SPEED (mph)	ERGONOMICS & COMMUN. (points)	FUEL ECONOMY (mpg)
92.210	26.380	45.790	115.000	173.900	14.300

STEP II: DEVIATION FACTOR

In each evaluation category, the best scoring vehicle's score is used as the benchmark against which each of the other vehicles' scores are compared. (In the Vehicle Dynamics and Acceleration categories the lowest score is best, while in the remainder of the categories the highest score is best.) The best scoring vehicle in a given category received a deviation factor of "0." The "deviation factor" is then calculated by determining the absolute difference between each vehicle's raw score and the best score in that category. The absolute difference is then divided by the best score, with the result being the "deviation factor."

CAR MAKE MODEL	TOP SPEED
CAR "A"	115.000 **.042**
CAR "B"	118.800 **.010**
CAR "C"	117.900 **.018**
CAR "D"	120.000 **0**

EXAMPLE:

Best Score (Car "D")		Other Vehicle Score (Car "A")		Absolute Difference		Best Score		Deviation Factor (Car "A")
120.000	-	115.000	=	5	/	120.000	=	**.042**

STEP III: WEIGHTED CATEGORY SCORE

Each vehicle's weighted category score is determined by multiplying the deviation factor (as determined in Step II) by the category weight.

RAW SCORE
DEVIATION FACTOR
WEIGHTED CATEGORY SCORE

10 points	— (category weight)
TOP SPEED (mph)	
115.000 .042 **.420**	.042 X 10 = **.420**

*All mathematical computations are to be rounded to the third decimal place.